

WHAT IS CLAIMED IS:

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1. A method of transmitting a digital signal comprising the steps of:

5 assembling a data packet comprised of a first data portion, a start synchronization code and an end synchronization code for bit synchronization for said first data portion, and an auxiliary data portion located between said start synchronization code and said end synchronization code ;

10 said auxilliary data portion comprises a type area indicating data type of said first data portion; and

transmitting said data packet via a communications network.

2. A method of transmitting a digital signal according to claim

15 1 wherein said first data portion comprises video data.

3. A method of transmitting a digital signal according to claim

1 wherein said first data portion comprises audio data.

20 4. A method of transmitting a digital signal according to claim

1 wherein said auxilliary data portion comprises a byte count

area indicating data volume.

5. A method of transmitting a digital signal according to claim  
1 wherein said auxilliary data portion comprises a second data  
5 portion.

6. The method as claimed in claim 1 wherein line number area  
indicating the line number of data is provided at the leading end  
of said auxilliary data portion.

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7. The method of claim 1 wherein said auxilliary data portion  
comprises error correction code data for detecting and correcting  
errors in data of said type area and said byte count area.

15 8. The method of claim 4 wherein said auxilliary data portion  
comprises error correction code data for detecting and correcting  
errors in data of said byte count area.

9. The method of claim 1 wherein said first data portion  
20 comprises digital video data and said second data portion  
comprises digital audio data.

9. The method as claimed in claim 1 wherein the digital signal format contains transmission data and reception data.

10. An apparatus for transmitting a digital signal comprising:  
5 plurality of data outputting media sources;  
plurality of delay adjustment units for respectively  
adjusting the delay of the data from said media sources;  
plurality of rate converting units for converting the data  
transmission rate of the respective data from the rate converting  
10 units into a transmission rate of a transmission channel;  
plurality of attribute information processing units for  
appending the attribute information to the respective data from  
said rate converting units;  
multi-media switching unit for optionally selecting data of  
15 the respective media sources from the attribute information  
processing units;  
transmission controlling unit for controlling said delay  
adjustment units, rate converting units, attribute information  
processing units and said multi-media switching unit; and  
20 multiplexing unit for multiplexing plural data from said  
multi-media switching unit.

11. A device for receiving a digital signal comprising:

demultiplexing unit for demultiplexing plural multiplexed data into media source based data;

a demultiplexed media switching unit for switching plural data from the demultiplexing unit into respective suitable media channels;

a plurality of attribute information processing unit for processing the plural data switched by said demultiplexed media switching unit based upon the attribute information for these data;

a plurality of rate converting units for converting the transmission rate of the respective data from the attribute information processing units into the playback rate for data reproduction;

a plurality of delay adjustment units for adjusting the respective data from the plural rate conversion units into optimum delay amounts; and

a plurality of media reproducing units for respectively reproducing the data from the delay adjustment units.

12. A digital signal transmitting and receiving system

comprising:

a transmitting side;

a receiving side;

said transmitting side comprises a plurality of data  
5 outputting media sources, a plurality of delay adjustment units  
for respectively adjusting a delay of the transmission of data  
from said media sources, a plurality of rate converting units for  
converting the data transmission rate of the respective data  
output from said rate converting units into a transmission rate  
10 of a transmission channel, a plurality of attribute information  
processing units for appending the attribute information to the  
respective data from said rate converting units, a multi-media  
switching unit for optionally selecting data of the respective  
media sources from the attribute information processing units, a  
15 transmission controlling unit for controlling said delay  
adjustment units, rate converting units, attribute information  
processing units and the multi-media switching unit, and a  
multiplexing unit for multiplexing plural data from said  
multi-media switching unit; and

20 said receiving side comprises demultiplexing unit for  
demultiplexing plural multiplexed data to produce media source

based data, demultiplexed media switching unit for switching plural data from said demultiplexing unit into respective suitable media channels, a plurality of attribute information processing unit for processing the plural data switched by said  
5 demultiplexed media switching unit based upon the attribute information for these data, a plurality of rate converting units for converting the transmission rate of the respective data from the attribute information processing units into the playback rate for data reproduction, a plurality of delay adjustment units for  
10 adjusting the respective data from said rate conversion units into optimum delay duration, a plurality of media reproducing units for respectively reproducing data from said delay adjustment units.

- 15 13. A digital signal transmission system comprising:
- a transmitter for transmitting digital signals;
  - a receiver for receiving digital signals transmitted from said transmitter;
  - said transmitter comprises:
  - 20 a plurality of input channels for receiving data from anyone of a plurality of predetermined media sources;

each of said plurality of input channels comprise,

an input for receiving media source data from a predetermined media source at a predetermined data transmission rate;

5 first delay for delaying said media source data by a predetermined duration before outputting same to a first data transmission rate converter;

said first data transmission rate converter converts the transmission rate of said media source data from said  
10 predetermined data transmission rate to a common data transmission rate and outputs same to a first attribute data processor;

said first attribute data processor appends predetermined attribute data to said media source data and outputs same;

15 multiplexor for multiplexing the output from said plurality of input channels and outputting a multiplexed signal at a common data transmission rate to a communication network;

switcher for alternately routing said output from said attribute data processors of each of said plurality of input  
20 channels to said multiplexor;

said receiver comprises:

demultiplexor for receiving a multiplexed data signal at a common data transfer rate from said communication network and demultiplexing said multiplexed signal to produce a plurality of data signals and output same to a plurality of output channels;

5 each of said output channels comprise:

second attribute data decoder for decoding attribute data appended to said data signal;

second data transmission rate convertor for converting the data transmission rate of a said data signal from said common  
10 data transmission rate to a predetermined data transmission rate and outputting same to a second delay; and

said second delay provides a predetermined delay to said data signal before outputting same to a predetermined media reproduction device.

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14. A digital signal transmitting device according to claim 13 wherein said media sources comprise video data sources.

15. A digital signal transmitting device according to claim 20 13 wherein said media sources comprise audio data sources.



16. A digital signal transmitting device comprising:

a first and second input channel for receiving data from a first and a second predetermined media source, respectively;

each of said first and second input channels comprise:

5 an input for receiving media source data from a predetermined media source at a predetermined data transmission rate; delay for delaying said media source data by a predetermined duration before outputting same to a data transmission rate converter; said data transmission rate  
10 converter converts the transmission rate of said media source data from said predetermined data transmission rate to a common data transmission rate and outputs same to an attribute data processor; said attribute data processor appends predetermined attribute data to said media source data and outputs same;  
15 multiplexor for multiplexing the respective outputs from said first and second input channels and outputting a multiplexed signal at a common data transmission rate to a communication network;

switcher for alternately routing said outputs from said  
20 attribute data processors of said first and second input channels to said multiplexor;

said first predetermined media source comprises a video data source; and

said second predetermined media source comprises an audio data source.

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17. A digital data signal receiver comprising:

demultiplexor for receiving a multiplexed data signal at a common data transfer rate from a communication network, and demultiplexing said multiplexed signal to produce a plurality of data signals and output same to a plurality of output channels;

each of said output channels comprise attribute data decoder for decoding attribute data appended to each of said data signals; data transmission rate convertor for converting the data transmission rate of a said data signal from said common data transmission rate to a predetermined data transmission rate and outputting same to a second delay; and

said delay provides a predetermined delay to said data signal before outputting same to a predetermined media reproduction device.

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18. A digital signal transmission device comprising:

sensor for reading data recorded on an optical disc media to produce an audio media source data signal and a video media source data signal;

5 transmitter comprising a first and a second input channel for receiving said audio signal and said video signal from said sensor, respectively;

said first and second input channels each comprise an input for receiving an input signal at a predetermined data  
10 transmission rate; delay for delaying said input signal by a predetermined duration before outputting same to a data transmission rate converter; said data transmission rate converter converts the transmission rate of said input signal from said predetermined data transmission rate to a common data  
15 transmission rate and outputs same to an attribute data processor; said attribute data processor appends predetermined attribute data to said input signal and outputs same;

multiplexor for multiplexing the respective outputs from said first and second input channels and outputting a multiplexed  
20 signal at a common data transmission rate to a communication network; and

switcher for alternately routing said outputs from said attribute data processors of said first and second input channels to said multiplexor.

5 19. A digital signal transmission device comprising:

reproducing head for reading data recorded on a magnetic recording medium to produce an audio media source data signal and a video media source data signal;

transmitter comprising a first and a second input channel for  
10 receiving said audio signal and said video signal from said sensor, respectively;

said first and second input channels each comprise:

an input for receiving an input signal at a predetermined data transmission rate; delay for delaying said input signal by  
15 a predetermined duration before outputting same to a data transmission rate converter; said data transmission rate converter converts the transmission rate of said input signal from said predetermined data transmission rate to a common data transmission rate and outputs same to an attribute data  
20 processor; said attribute data processor appends predetermined attribute data to said input signal and outputs same;

multiplexor for multiplexing the respective outputs from said first and second input channels and outputting a multiplexed signal at a common data transmission rate to a communication network; and

5        switcher for alternately routing said outputs from said attribute data processors of said first and second input channels to said multiplexor.

20.        A data transmission device according to claim 19, wherein  
10        said magnetic recording medium comprises a magnetic disc medium.

21.        A data transmission device according to claim 19, wherein  
             said magnetic recording medium comprises a magnetic tape medium.

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